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EXAMINER	
THEXTON, MATTHEW	
ART UNIT	**PAPER NUMBER**
1714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/647,795	DELPHIN ET AL.	
	Examiner	Art Unit	
	Matthew A. Thexton	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006 and 30 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9 and 32-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9 and 32-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *one sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 2006 January 31, as to the Remarks, and 2006 March 30, as to the Claims and Remarks, have been entered.

Information Disclosure Statement

The IDS submitted 2006 January 9 has(have) been considered. Duplicate citation(s) has(have) been lined through, retaining the earlier(earliest) filed citation(s).

Information Disclosure Obligation

Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which Patent No. 5880207 is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

These obligations rest with each individual associated with the filing and prosecution of this application for reissue. See also MPEP §§ 1404, 1442.01 and 1442.04.

Text of Title 35 USC not Cited

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims Status and Version

Claims 1, 3-9, and 32-53 are pending.

The listing of claims submitted 2006 March 30 have been examined.

Claims Analysis

Claim 1 is directed to mixtures comprising:

- a matrix of polymethyl methacrylate having dispersed within it
- particles comprising:
    - about 80 to about 88 weight percent polymethyl methacrylate;

- about 12 to about 20 weight percent of an ethylenically unsaturated comonomer selected from the group consisting of C2 to C8 alkyl acrylates and C2 to C8 alkyl methacrylates; and

- about 0.4 to about 1.0 weight percent of a crosslinker;

wherein the particles are present in an amount of about 5 to about 20 weight percent of the composition, and

wherein the matrix is present in an amount of about 80 to about 95 weight percent of the composition.

Claims 3-9 depend directly or indirectly on claim 1 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, or the particle size range before being mixed.

Claims 1 and 3-9 are interpreted to encompass cured and uncured compositions.

Independent claim 32 is directed to methods of making an article comprising:

(a) forming a mixture comprising a matrix comprising a mixture of:

- less than about 25% by weight of the matrix of PMMA solids; and

- methyl methacrylate monomer;

said matrix having dispersed within it particles comprising:

- about 80 to about 90 weight percent PMMA; and

- about 10 to about 20 weight percent of a comonomer comprising an ethylenically unsaturated monomer that copolymerizes with methyl methacrylate; and
- more than 0.4 weight percent of a crosslinker;

(b) curing the mixture; and

(c) thermoforming the cured mixture.

Claims 32-41 depend directly or indirectly on claim 32 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, the particle size range before being mixed, the proportion of particles in the mixture, or the proportion of matrix in the mixture.

Independent claim 42 is directed to methods of making an article comprising:

(a) forming a curable mixture comprising a matrix comprising PMMA, said matrix having dispersed within it particles comprising:
- about 80 to about 90 weight percent PMMA; and
- about 10 to about 20 weight percent of a comonomer comprising an ethylenically unsaturated monomer that copolymerizes with methyl methacrylate; and
- more than about 0.4 weight percent of a crosslinker;

(b) curing the mixture; and

(c) thermoforming the cured mixture.

Claims 43-52 depend directly or indirectly on claim 42 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, the particle size range before being mixed, the proportion of particles in the mixture, or the proportion of matrix in the mixture.

Claim 53 depends from claim 42 and is directed to thermoformed articles having a granite appearance prepared by the method of claim 42.

Claim Objections

Claim 3 is objected to because of the following informalities: The last word in line 3 should be "methacrylate." Appropriate correction is required.

Claims 1 and 3-9 are objected to under 37 CFR 1.75(i) as being in improper form because each of a plurality of elements or steps of the claim should be separated by a line indentation. See MPEP § 608.01(m). Appropriate correction is required.

Claims 32-53 are objected to under 37 CFR 1.173(e) as being in improper form in that the numbering of any added claim must follow the number of the highest numbered patent claim (i.e., claim 19). Appropriate correction is required.

Claim 41 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. The limitation "about 95" is outside of the limitation range of the claim from which this claim depends. Appropriate correction is required.

35 U.S.C. 251. Reissue of defective patents.

Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Director shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.

The Director may issue several reissued patents for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued patents.

The provisions of this title relating to applications for patent shall be applicable to applications for reissue of a patent, except that application for reissue may be made and sworn to by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent.

No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

Defective Reissue Application Declaration

The reissue oath/declaration filed with this application is defective because it fails to identify at least one error which is relied upon to support the reissue application. See 37 CFR 1.175(a)(1) and MPEP § 1414.

The statement of error fails to identify specifically the error being relied upon as a basis for the reissue, e.g., the specific claim language wherein the error lies.

Claims 1, 3-9, and 32-53 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

New Matter Claim Rejections - 35 U.S.C. 251

Claims 1 and 3-9 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows: Claim 1 contains numerical values which in the original specification including the claims was presented without the modifier "about" but currently does have this modifier. Broadening of subject matter is considered new matter, i.e., subject matter not in the possession of Applicant at the time of filing. Specifically, "about 88" and "about 12" do not appear to have basis in the application as originally filed.

Claims 32-41 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows: "said matrix comprising a mixture of less than about 25% by weight of the matrix of polymethyl methacrylate solids with excess methyl methacrylate monomer" is not supported by the originally filed specification including the claims. The matrix is described in the paragraph bridging columns 2-3. A syrup containing about 25% of PMMA solids in MMA is diluted with from about an equal amount up to about five times more of MMA. Accordingly, the amount of PMMA solids

in the matrix is about one-half to about one-sixth of 25% (see also each of the examples).

Broadened Claims Outside the Two Year Statutory Period - 35 U.S.C. 251

Claims 1, 3-9, 32-41, and 42-53 are rejected under 35 U.S.C. 251 as being broadened in a reissue application filed outside the two year statutory period. Claim 1, line 8, "about 0.4" is considered broader than the patented claims. Claim 32, line 7, "about 10" is considered broader than the patented claims. Claim 42, line 6, "about 10" and line 9, "about 0.4" are considered broader than the patented claims A claim is broader in scope than the original claims if it contains within its scope any conceivable product or process which would not have infringed the original patent. A claim is broadened if it is broader in any one respect even though it may be narrower in other respects.

Claim Rejections - 35 USC § 112

Claims 1, 3-9, and 42-53 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for matrix formed as described by the paragraph bridging columns 2-3, does not reasonably provide enablement for matrix formed solely from MMA or from syrup having other than "about 25% of PMMA solids with excess MMA monomer" which is diluted as prescribed by the enablement. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in

scope with these claims. The description, including every example, requires the presence of PMMA. Reference Buser et al. (US 4159301), discloses the utility of this component (paragraph bridging columns 2-3). It is concluded that it is necessary to the practice of Applicant's invention in order to prevent segregation during curing.

Claim Rejections - 35 USC § 103

Claims 1, 5-8, 32, 35-38, 40, 41, 42, 46-49, and 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimatsu (JP 04-279668-A, as understood from Applicant-supplied translation) in view of Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The rejection set forth in the Office action of 2005 July 8 (pages 6-7) is repeated (with indicated changes by underlining) here:

> The reference '668 discloses copolymer particles comprising MMA and styrene and crosslinker EGDM added to a syrup of MMA and ethyl acrylate and initiator 2,2-azobis-isobutyronitrile (example 1, page 7 of translation). The PMMA content of the syrup is not divulged.
>
> Reference '301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight %

(example 1), 19.8 Wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures of '668. It is noted that Applicant's claim and disclosure employs dilution of the syrup of about 25 % PMMA with MMA which means the uncured matrix mixture must be less than 25 % PMMA. It is not considered that one could determine from a mixture as claimed whether the MMA was present in the making of the syrup or mixed in later; mixing would obscure the origin of MMA; thus the prima facie obvious mixtures and products are indiscernible from the claimed subject matter.

Claims 1, 3-8, and 42-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckers et al. (EP 0582951 A2, as evidenced by US 5475055 A) and Kamiyama et al. (EP 443609A2).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

'055 discloses formulations and thermoforming methods of using them (see examples). The formulations comprise A1 copolymer of A11 and A12 which may be 50 to 95 weight percent methyl methacrylate (column 1, lines 39-42), B 0.5-15 weight

percent (column 1, lines 64-65), and C particulate copolymer comprising C1 plus C2 plus C3 (column 2, lines 1-14). The presence of B is not probative since Applicant's claims are 'comprising.'

'055 suggests for the comonomers of the C particle comprise C1 at 80-99 weight percent methyl methacrylate and C2 at 0.5 to 15 weight percent "an ester of acrylic acid" (column 2, lines 6-7), and "a fairly long-chain acrylic ester (C2)" (column 3, lines 45-46), and for the crosslinker of the particle "a crosslinking monomer copolymerizable with C1 and C2" at 0.5 to 5 weight percent (column 2, lines 8-9) which is exemplified as butanediol dimethacrylate (column 4, lines 60-61). The limitations of claims 1, 3, 4, 7, 8, 42-45, 48, 49, and 51-53 appear to be suggested by this disclosure alone.

'055 suggests "a fairly long-chain acrylic ester (C2)" (column 3, lines 45-46) and suggests the procedure and materials of reference '609. '609 (column 13, lines 12-46) suggests a variety of acrylic esters which include butyl acrylate and ethyl acrylate (Applicant's preferred comonomers). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed such comonomers in light of the plain suggestion to do so.

'055 suggests for the crosslinker of the particle "a crosslinking monomer copolymerizable with C1 and C2" at 0.5 to 5 weight percent (column 2, lines 8-9) which is exemplified as butanediol dimethacrylate (column 4, lines 60-61), which is a close analog to the ethylene glycol dimethacrylate of claims 5 and 6. Absent evidence of unexpected results, it would have been obvious to one of ordinary skill in the art at the

time of the invention to select other known species for the crosslinker given the generic suggestions and to thus arrive at the limitations of the claims.

Claims 32-38, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckers et al. (EP 0582951 A2, as evidenced by US 5475055 A) and Kamiyama et al. (EP 443609A2) further taken with Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The disclosures of '055 and '609 are discussed in the statement of rejection immediately hereinabove and incorporated here by this reference thereto.

'301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures obvious from '055 and '609.

Claims 1, 3-8, and 42-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 5237004 A).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The rejection set forth in the Office action of 2004 October 14 (pages 7-8) is repeated (with indicated changes by underlining or bracketing) here:

> The reference discloses formulations and thermoforming methods of using them (see column 11, lines 34-43, and examples such as example 9). The formulations comprise matrix polymer of methylmethacrylate (column 10, lines 49-51), and single phase polymer particles comprising copolymers of methylmethacrylate, butyl methacrylate, ethyl acrylate, butyl acrylate, styrene (column 4, lines 1-14) which incorporate crosslinking monomers such as glycol dimethacrylates, allyl methacrylate (column 4, lines 48-67) at dosages of about 0.5 to 10 weight percent (column 4, line 67 to column 5, line 3).
>
> The single phase particles are exemplified in examples 122-136, 145, 165-167. None is about 80 to about 88 [[75 to 90]] weight percent methyl methacrylate plus about 12 [[10]] to about 20 weight percent comonomer as required by the claims. Crosslinker allyl methacrylate and butylenes glycol diacrylate are exemplified, but ethylene glycol dimethacrylate as required by claim 6 [[claims 6 and 15 are]] is not exemplified. However, given the broad disclosure, absent evidence of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select from the suggested

comonomers and proportions and other known species for [[the particle comonomers and]] the crosslinker given the generic suggestions and to thus arrive at the limitations of the claims.

Claims 32-38, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 5237004 A) further taken with Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The disclosure of '004 is discussed in the statement of rejection immediately hereinabove and incorporated here by this reference thereto.

'301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures obvious from '004.

Claims 1, 5-8, and 42-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hennig et al. (US 4876311).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The rejection set forth in the Office action of 2004 October 14 (pages 9-10) is repeated (with indicated changes by underlining or bracketing) here:

> The reference discloses formulations and thermoforming methods of using them (see column 1, lines 8-9, column 6, lines 13-17, and example 2). The formulations comprise matrix polymer of methylmethacrylate (column 6, lines 1-7, example 2), and polymer particles comprising copolymers of methylmethacrylate and other alkyl acrylate monomer component B (column 3, lines 63-66, column 4, lines 8-10) [[and comonomer (column 3, lines 32-66)]], which incorporate crosslinking monomers such as glycol dimethacrylates (column 4, lines 12-27) at dosages of about 0.1 to 20 weight percent (abstract and claim 1). Example 1 to the particle employs 59 weight percent of MMA, 40 weight percent styrene, 1 weight percent glycol dimethacrylate. Example 2 to the formulation employs polymethyl methacrylate matrix plus the particles of example 1.
>
> Absent evidence of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select other suggested [[known]] species for the comonomer (such as butyl acrylate) and proportions within the suggested range given the generic suggestions and to thus arrive at the limitations of the claims.

Claims 32-38, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hennig et al. (US 4876311) further taken with Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The disclosure of '311 is discussed in the statement of rejection immediately hereinabove and incorporated here by this reference thereto.

'301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures obvious from '311.

Claims 1, 3-9, and 42-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roemer et al. (US 4396476).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The rejection set forth in the Office action of 2004 October 14 (pages 10-11) is repeated here:

> The reference discloses formulations and thermoforming methods of using them (see column 12, lines 11-30, examples). The formulations comprise matrix polymer of methylmethacrylate (column 9, lines 42-43), and polymer particles comprising copolymers of methylmethacrylate (column 5, line 57 to column 6, line 39, examples) and comonomer (op. cit.), of size 0.001-500 microns (column 9, lines 10-29), which incorporate crosslinking monomers such as ethylene glycol dimethacrylate (column 6, line 40 to column 7, line 68, especially column 7, lines 24-25 and 66-67) at dosages of about 0.1 to 30 weight percent (column 8, lines 13-58). The proportions of comonomer to methylmethacrylate in the particle phase are suggested in the examples and range from 0.2 (example 6) to 10 (example 4) to 30 (example 3). No single example anticipates the claims.
>
> Absent evidence of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select from the comonomers and proportions within the suggested range given the generic suggestions and to thus arrive at the limitations of the claims.

Claims 32-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roemer et al. (US 4396476) further taken with Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The disclosure of '476 is discussed in the statement of rejection immediately hereinabove and incorporated here by this reference thereto.

'301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures obvious from '476.

Claims 1, 3-9, and 42-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishida et al. (JP 59-38253A, as evidenced by Applicant supplied translation).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

Citations refer to the translation. '253 discloses molding mixtures comprising 100 parts by weight of PMMA with 1-30 phr of particles of 10-500 microns consisting of 0.5 to 5 parts by weight of a crosslinker (such as allyl methacrylate, ethylene glycol dimethacrylate) per 100 parts by weight of copolymerized 50 to 90 weight % C1 to C4

alkyl methacrylate (such as methyl methacrylate) and 10 to 40 % by weight C1 to C8 alkyl acrylate (such as butyl acrylate) (see claim, page 5-6 bridging paragraph, page 6 lines 4-11, page 7 lines 4-17). No single example anticipates the claims.

Absent evidence of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select from the comonomers and proportions within the suggested ranges given the generic suggestions and to thus arrive at the limitations of the claims.

Claims 32-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishida et al. (JP 59-38253A, as evidenced by Applicant supplied translation) further taken with Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The disclosure of '253 is discussed in the statement of rejection immediately hereinabove and incorporated here by this reference thereto.

'301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and

suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures obvious from '253.

Response to Arguments Presented 2006 January 9

Applicant's arguments (page 8, last paragraph) with respect to the rejection under 35 U.S.C. 103(a) over Yoshimatsu (JP 04-279668-A, as understood from Applicant-supplied translation) in view of Buser et al. (US 4159301) consists of the bare statement that "neither Yoshimatsu nor Buser teach or suggest Applicants' present invention." This is not persuasive; the rejection is a combination of the disclosures of the two references. Applicant has failed to rebut the statement of rejection.

Applicant remarks upon previously relied upon Seki et al. (US 5039749 A) (page 9, top). In a previous Office action (first Office action on the merits, 2004 October 14), analysis of example 1 was said to reveal that the particle is composed of 10.6 weight percent of butyl acrylate comonomer and about 0.5 weight percent crosslinkers. This was in error. Applicant has correctly calculated (response of 2006 January 9, page 9, top) that the particles have a BA content of about 40 weight percent; it is the overall formulation that has a BA content of about 10.6 weight percent. Analysis of Comparative Example 2 reveals the particles have a BA content of about 24 weight percent, MMA content of about 70 weight percent, styrene content of about 4.7 weight percent, and crosslinker combined content of about 0.7 weight percent (see also Table 1, the acetone solubles and insolubles confirm the analysis). '749 requires the acetone insolubles comprise 20 to 70 weight percent of MMA (column 2, lines 58-66), which is

concluded to be outside of Applicant's claim limitation of "about 80 to about 88 weight percent" (claim 1) or of "about 80 to about 90 weight percent" (claims 32 and 42).

Applicant's remarks (pages 9-10) with respect to Deckers et al. (EP 0582951 A2, as evidenced by US 5475055 A), Wu et al. (US 5237004 A), Hennig et al. (US 4876311), and Roemer et al. (US 4396476) have been fully considered and are not persuasive. The statements of rejection based on these references set forth hereinabove are thought to respond to said remarks.

Conclusion

The previously indicated allowable subject matter is retracted for the following reasons. Claim 1 was rewritten to remove the limitation to PMMA solids. Claims 32-41 contain the limitation to PMMA solids, however, upon reconsideration of the prior art, new rejections are set forth.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Tuesday-Friday, 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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